

# STATE OF ALASKA

## DEPT. OF ENVIRONMENTAL CONSERVATION

### DIVISION OF WATER

#### Wastewater Discharge Authorization Program

SEAN PARNELL, GOVERNOR

555 Cordova Street  
Anchorage, AK 99501-2617

Phone: (907) 269-7564

Fax: (907) 334-2415

TTY: (907) 269-7511

<http://www.state.ak.us/dec/>

June 1, 2010

**Certified Mail 7008-1830-0003-5208-2137**

Mr. Bob Effinger  
Alaska Department of Transportation & Public Facilities  
2301 Peger Road,  
Fairbanks, AK 99709-5316

Subject: One Mile Creek  
Reference No. POA-2004-653

Dear Mr. Effinger:

In accordance with Section 401 of the Federal Clean Water Act of 1977 and provisions of the Alaska Water Quality Standards, the Department of Environmental Conservation is issuing the enclosed Certificate of Reasonable Assurance for the realignment of two miles of the Richardson Highway to relocate One Mile Creek Bridge.

Department of Environmental Conservation (DEC) regulations provide that any person who disagrees with this decision may request an informal review by the Division Director in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. Informal review requests must be delivered to the Director, Division of Water, 555 Cordova St., Anchorage, AK 99501, within 15 days of the permit decision. Visit <http://www.dec.state.ak.us/commish/ReviewGuidance.htm> for information on Administrative Appeals of Department decisions.

Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, PO Box 111800, Juneau, AK 99811-1800, within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

By copy of this letter we are advising the Corps of Engineers of our actions and enclosing a copy of the certification for their use.

Sincerely,



Sharon R. Morgan  
Environmental Program Manager

Enclosure

cc: (with encl.)  
Mary Romero, USACE, Anchorage  
Tracy DeGering, EPA, AK Operations

Sean Palmer, ADEC Anchorage  
Robert McLean, ADF&G/Habitat, Fairbanks  
Bob Henszey, USF&WS, Fairbanks

**STATE OF ALASKA**  
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**CERTIFICATE OF REASONABLE ASSURANCE**

A Certificate of Reasonable Assurance, in accordance with Section 401 of the Federal Clean Water Act and the Alaska Water Quality Standards, is issued to The Alaska Department of Transportation & Public Facilities, 2301 Peger Road, Fairbanks, AK 99709-5316 for the placement of 1,725 cubic yards (cy) of clean fill in 0.36-acre of wetlands, as well as the excavation of 500,000 cy of gravel and fill material from 40 acres within the Delta River Flats, and the removal of 150,000 cy of material currently stockpiled in 10 acres of wetlands north of the One Mile Creek Bridge, for the construction and realignment of the Richardson Highway and relocation of One Mile Creek Bridge. All excavated materials will be stockpiled in uplands adjacent to the Delta River Flats material site. In addition, the existing segment of the Richardson Highway would be obliterated except for a 0.3-mile segment.

The proposed activity is located within Section 5-8, T. 16 S., R. 10 E., and Section 32, T.15 S., R. 10 E., Fairbanks Meridian near Black Rapids, Alaska.

Public notice of the application for this certification was given as required by 18 AAC 15.180.

Water Quality Certification is required under Section 401 because the proposed activity will be authorized by a Corps of Engineers permit, reference number POA-2004-653, and a discharge may result from the proposed activity.

Having reviewed the application and comments received in response to the public notice, the Alaska Department of Environmental Conservation certifies that there is reasonable assurance that the proposed activity, as well as any discharge which may result, will comply with applicable provisions of Section 401 of the Clean Water Act and the Alaska Water Quality Standards, 18 AAC 70, provided that the following alternative measures are adhered to:

1. Fuel storage and handling activities for earth moving equipment must be sited and conducted so there is no petroleum contamination of surface runoff and water bodies.
2. Material such as sorbent pads shall be available and used immediately to contain and cleanup oil, fuel, hydraulic fluid, antifreeze or other pollutant spills as a result of construction activities. For any spill amount, there are Discharge Notification and Reporting Requirements (AS 46.03.755 and 18 AAC 75 Article 3). Most importantly, contact by phone the ADEC Area Response Team for Northern Alaska, (907) 451-2121 during work hours or 1-800-478-9300 after hours. Also contact by phone the National Response Center at 1-800-424-8802. Report all spills.

3. During the work on culverts and bridges, construction equipment shall not be operated below the ordinary high water mark if equipment is leaking fuel, oil, hydraulic fluid, or any other hazardous material. Operation of tracked or wheeled equipment in the water shall be kept to a minimum. Equipment shall be inspected on a daily basis for leaks. If leaks are found the equipment shall not be used and pulled from service until the leak is repaired.
4. Runoff discharged to surface water from a construction site disturbing 1 or more acres must be covered under ADEC's APDES General Permit for Storm Water Discharges from Large and Small Construction Activities in Alaska (AKR10-0000). This permit requires that a Storm Water Pollution Prevention Plan (SWPPP), describing construction runoff and erosion control, be prepared and implemented. For projects that disturb greater than 5 acres, this SWPPP must also be submitted to ADEC (Greg Drzewiecki 907-269-7692) prior to construction. Please contact ADEC directly concerning the NPDES storm water permit.

This certification expires five (5) years after the date the certification is signed. If your project is not completed by then and work under Corps of Engineers Permit will continue, you must submit an application for renewal of this certification no later than 30 days before the expiration date (18 AAC 15.100).

Date June 2, 2010

Sharon R. Morgan  
Sharon R. Morgan  
Environmental Program Manager



US Army Corps  
of Engineers  
Alaska District

# Public Notice of Application for Permit

Regulatory Division (1145)  
CEPOA-RD  
Post Office Box 6898  
Elmendorf AFB, Alaska 99506-0898

**PUBLIC NOTICE DATE:** February 12, 2010  
**EXPIRATION DATE:** March 15, 2010  
**REFERENCE NUMBER:** POA-2004-653  
**WATERWAY:** One Mile Creek

Interested parties are hereby notified that a Department of the Army permit application has been received for work in waters of the United States as described below and shown on the enclosed project drawings.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact **Mary Romero** at (907) 753-5556, toll free from within Alaska at (800) 478-2712, by fax at (907) 753-5567, or by email at [mary.r.romero@usace.army.mil](mailto:mary.r.romero@usace.army.mil) if further information is desired concerning this notice.

**APPLICANT:** Alaska Department of Transportation & Public Facilities, 2301 Peger Road, Fairbanks, Alaska 99709-5316. POC: Mr. Bob Effinger, 907.451.5294

**LOCATION:** The project site is located within Section 5, 6, 7, & 8, T. 16 S., R. 10 E., Section 32, T. 15 S., R. 10 E., Fairbanks Meridian; USGS Quad Map Mt Hayes C-4; Latitude 63.54416° N., Longitude 145.861388° W.; near Black Rapids, Alaska.

**PURPOSE:** The applicant's stated purpose is the realignment of two miles of the Richardson Highway in order to relocate One Mile Creek Bridge 450 feet upstream of its current location.

**PROPOSED WORK:** Placement of 1,725 cubic yards (cy) of clean fill in 0.36-acre of wetlands, as well as the excavation of 500,000 cy of gravel and fill material from 40 acres within the Delta River Flats, and the removal of 150,000 cy of material, currently stockpiled in 10 acres of wetlands north of the One Mile Creek Bridge, for the construction and realignment of the Richardson Highway and relocation of One Mile Creek Bridge. All excavated materials will be stockpiled in uplands adjacent to the Delta River Flats Material site as shown on sheet 4. In addition the existing segment of the Richardson Highway would be obliterated except for a 0.3-mile segment. All work would be performed in accordance with the enclosed plan (sheets 1-9), dated November 25, 2009.

ADDITIONAL INFORMATION: The existing One Mile Creek Bridge is located at the bottom of the alluvial fan of One Mile Creek, a flash-flood mountain stream, where topography flattens and the stream loses velocity. As a result of the change in water velocity, a significant amount of gravel is regularly deposited in the stream channel upstream of, and under the bridge clogging and compromising the bridge integrity. This increased bed load causes high water and scour associated with overtopping flows. These conditions compromise the integrity of the bridge abutments and cause continuing maintenance problems. The purpose of the project is to improve bridge safety and reduce maintenance costs by alleviating these conditions.

The proposed project would remove the existing One Mile Creek Bridge located at milepost 228.4 and construct a new bridge 450 feet upstream where the new alignment crosses. The new bridge would be a single-span structure, consisting of six 4.5-foot tall pre-stressed concrete bulb-tee girders. The bridge length would be 110 feet. The finished bridge would include steel railings connected to guardrail. The concrete bridge deck would be covered with a waterproofing membrane and asphalt. The width of the bridge would be 43 feet (two 12 foot lanes, two 8 foot shoulders, and 1.5 feet on each side to accommodate the bridge railing).

To accommodate the new bridge location, two miles of the highway would be realigned, providing safer driving conditions through construction of wider shoulders and flatter horizontal curves. The realign portion of the Richardson Highway would consist of two 12 foot lanes with 10 foot shoulders.

The existing segment of the Richardson Highway would be obliterated except for a 0.3-mile segment to serve as a part of a circular driveway access for the existing Alyeska Pipeline Services Company material stockpile site. Segments of the existing alignment proposed to be obliterated or retained are shown in the drawings. The obliteration would involve removal of the asphalt surface, grading the embankment or cut slopes to blend in with surrounding topography, and removal of some culverts. The materials from the obliteration would be recycled into the new road segment or hauled to an acceptable upland disposal site. The existing concrete and steel bridge over One Mile Creek would also be removed and the approaching embankment would be removed to blend into the stream banks and adjacent slopes.

Material removed during maintenance efforts and 2006 emergency flood repairs to keep the creek in its channel has been stockpiled adjacent to the replacement structure. The location of this material is noted on the drawings as "One Mile Creek Material Site". The volume of stockpiled material available for use is estimated to be 100,000 and 150,000 cy. Additional material is needed beyond this; the additional material is proposed to be excavated from the proposed Delta River Flats Material Site.

APPLICANT PROPOSED MITIGATION: The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

a. Avoidance: The applicant has provided the following measures to avoid wetlands, although due to the linear nature of the roadway, highway crossings of One Mile Creek and the unnamed drainage to the Delta River were unavoidable:

- DOT&PF considered other material sources besides the Delta River Flats but none could economically provide the full quantity of material needed for the project to avoid use of the Delta River Flats. 150,000 cy of material has been stockpiled

- There shall be no diverting or obstructing the flow within channels of the Delta River to facilitate material mining operations.
- Material shall not be removed from the flowing waters of the Delta River. A 100-foot buffer shall likewise be maintained between any temporary stockpiles of the excavated material and flowing waters in the Delta River flats.
- Except for the ingress and egress points to the Delta River Flats Material Site, the vegetated streambanks shall not be altered or disturbed. If streambanks are inadvertently disturbed, they shall be immediately stabilized to prevent erosion.
- Material would be removed from the Delta River Flats in shallow, even lifts to avoid the creation of fish entrapment basins. Any depression created by the material removal shall maintain positive drainage to the Delta River or shall be leveled to avoid fish entrapment.
- Fueling of equipment while on the Delta River flats shall be prohibited. Equipment refueling and storage areas would be located at least 100 feet from an active stream channel.
- Any excess material excavated from the projects area will be disposed of in uplands or in an area permitted for fill.

b. Minimization: The following conditions are offered as minimization of wetland impacts:

- While a stream crossing of One Mile Creek cannot be avoided, the project proposal is expected to result in a net reduction of impacts to One Mile Creek. Removal of the existing bridge, relocation of the bridge to a more stable upstream location, and removal of the stockpiled material immediate downstream of the existing bridge would all contribute toward restoring natural hydrology. The existing bridge site would be allowed to return to its natural alluvial fan condition. Future maintenance work within the stream would be reduced or eliminated.
- The existing One Mile Creek Bridge would be completely removed from the stream when construction is complete. Likewise, the approaching embankment would be removed to blend into the stream banks and adjacent slopes.
- Permanent riprap fill below the OHW of One Mile Creek would be minimized to that needed to provide a stable slope around the abutments.
- DOT&PF would coordinate the timing of any in-stream activity with the Alaska Department of Fish and Game (ADFG), Division of Habitat to avoid or minimize in-stream work during sensitive fisheries periods
- The One Mile Creek stockpiles will be fully used as a material source for this project providing an estimated 100,000 to 150,000 cy of usable material thereby minimizing that amount from being needed from the Delta River Flats.
- No equipment or vehicles shall be permitted to operate within the flowing waters of the Delta River except where ADFG requires construction of a channel connection between the material site excavation depression and the Delta River.

- Disturbed areas, vegetated prior to the project and left unprotected by improvements, including slopes, will be stabilized and re-vegetated. Ground disturbances in these areas will be addressed by measures such as raking slopes, track walking slopes, seeding, fertilizing, and mulching. This will reduce erosion and sediment transport and help establish vegetative cover, thereby minimizing short-term and long-term impacts to adjacent and downstream waters.

- Existing drainage patterns will be maintained wherever possible.

c. Compensatory Mitigation: Compensatory mitigation is not proposed for this project. Overall the project is expected to provide a net benefit to waters. Removal of the existing bridge combined with removal of the stockpiled material immediate downstream would contribute toward restoring natural hydrology allowing the landscape at this site to return to its natural contours and alluvial fan condition. Culvert installation at the unnamed drainage on the north end of the project is expected to be offset by culvert removal on the existing alignment. The removal of material from the Delta River Flats is expected to be a temporary condition. The excavated depression would return to its natural elevation by the dynamic movements of floodwaters and sediment deposition in the Delta River Flats.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification, as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are four unevaluated properties in the vicinity of the worksite. They have been designated: XMH-01266, Darling Creek Bridge, NDE; XMH-00245, Corkscrew Creek, NDE; XMH-00221, Gunnysack Creek, NDE; and XMH-01265, Gunny Sack Creek Bridge, NDE. Because the properties have been determined to be outside of the project area, no further action is required for these sites.

There are also two registered or eligible properties in the vicinity of the worksite. They have been designated XMH-00223, Rapids Roadhouse (Black Rapids Roadhouse)-NHR and XMH-00392, Black Rapids White Alice Communications, NRE. Because they have been determined to be outside of the project area, no further action is required for these two sites as well.

In addition there is a registered or eligible property within the project area worksite. It has been designated XMH-01238, One Mile Creek Bridge, NPD. The Federal Highway Administration (on behalf of the Alaska Department of Transportation and Public Facilities) and the Alaska State Historic Preservation Officer entered into a memorandum of agreement pursuant to 36 CFR 800.6(c) regarding the Richardson Highway MP 228 One Mile Creek Bridge Replacement Project BR-071-4(18)/61870 to "agree that the undertaking shall be implemented in accordance with the following stipulations in consideration of the effects this undertaking will have on the above referenced historic property." The memorandum of agreement sets out the stipulations under which the historic bridge would be removed during this project.

Consultation of the AHRS constitutes the extent of cultural resource investigations by the District Commander at this time. This application is being coordinated with SHPO.

Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area.

Preliminarily, the described activity will not affect threatened or endangered species, or modify their designated critical habitat, under the Endangered Species Act of 1973 (87 Stat. 844). This application is being coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS). Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

Preliminarily, the described activity will not affect EFH in the project area. This Public Notice initiates EFH consultation with the NMFS. Any comments or recommendations they may have concerning EFH will be considered in our final assessment of the described work.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between Federally recognized Tribes and the Federal government. Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Commander during the public comment period.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The outcome of the general balancing process would determine whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur. The decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof.

Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Commander determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

AUTHORITY: This permit will be issued or denied under the following authority:

(X) Discharge dredged or fill material into waters of the United States - Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Project drawings and Notice of Application for State Water Quality Certification are enclosed with this Public Notice.

District Commander  
U.S. Army, Corps of Engineers

Enclosures

# STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION  
DIVISION OF WATER  
401 Certification Program  
Non-Point Source Water Pollution Control Program

DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WQM/401 CERTIFICATION  
555 CORDOVA STREET  
ANCHORAGE, ALASKA 99501-2617  
PHONE: (907) 269-7564/FAX: (907) 334-2415

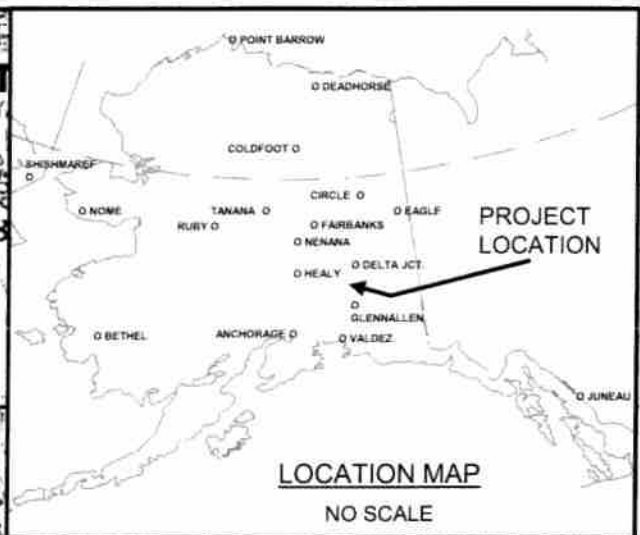
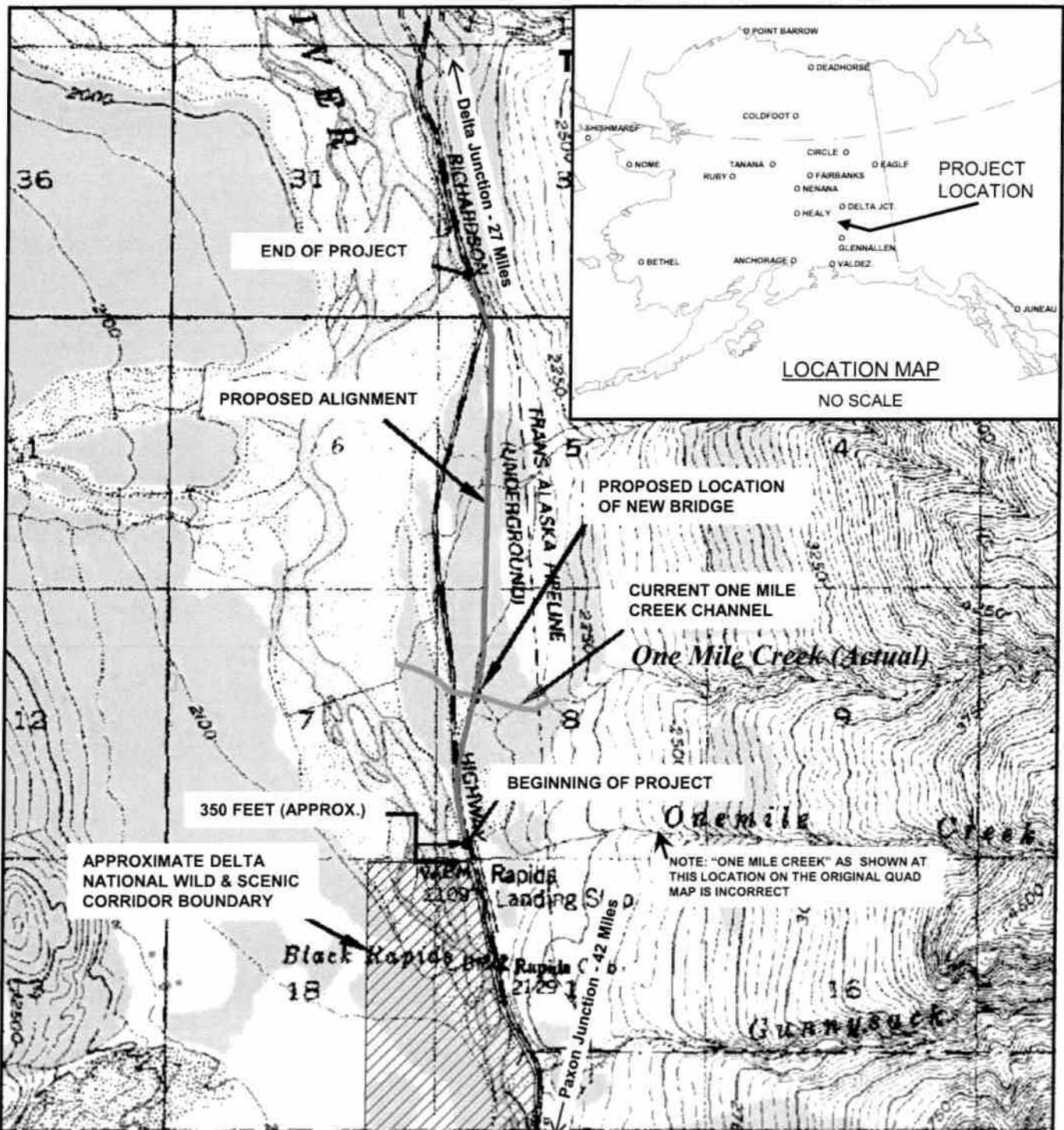
## NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice No. POA-2004-653, One Mile Creek, serves as application for State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project, with respect to Water Quality Certification, may submit written comments to the address above by the expiration date of the Corps of Engineer's Public Notice.



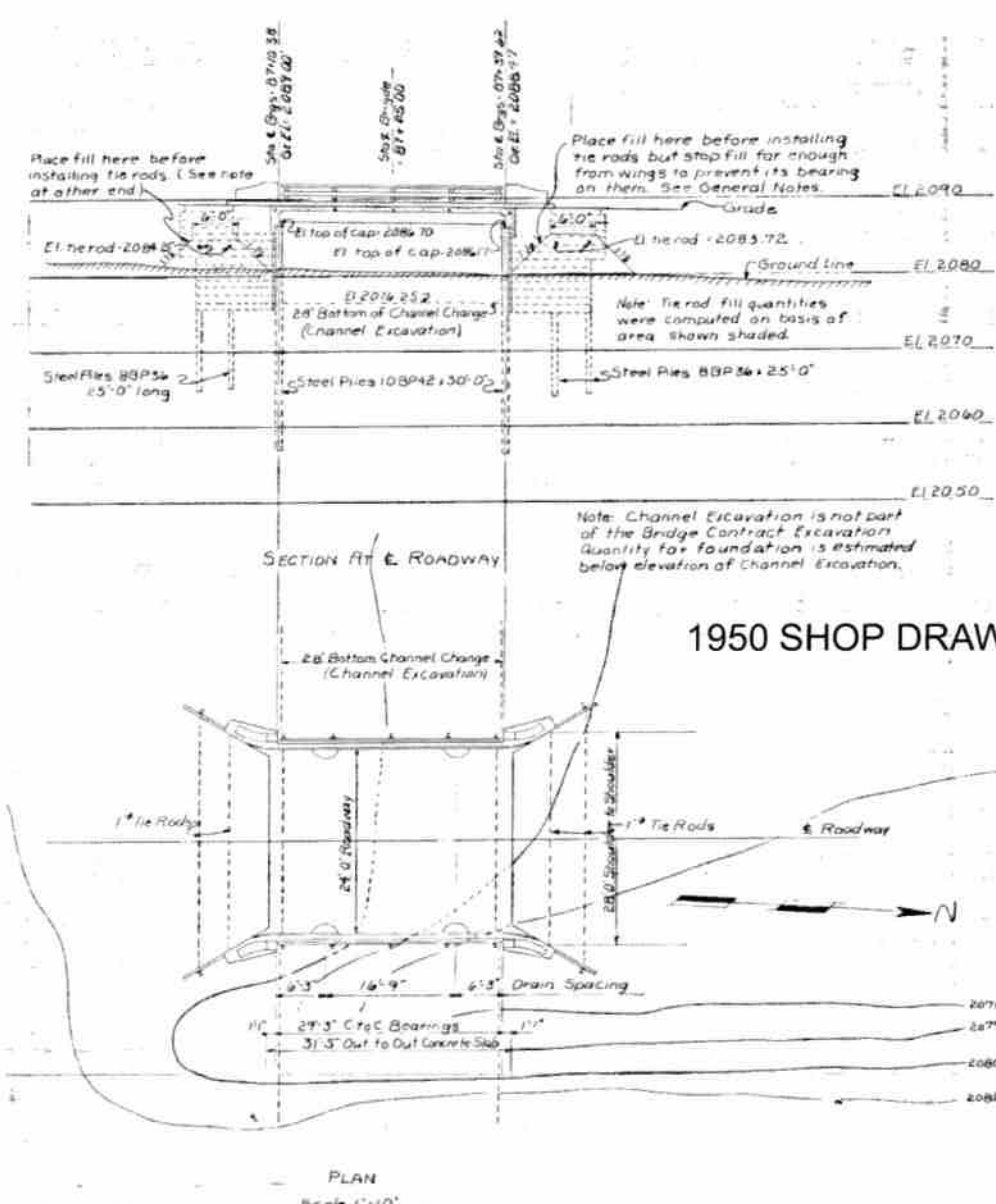
T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Section 32  
 USGS Mt. Hayes (C-4); Fairbanks Meridian  
 Project Center Coordinates:  
 Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

1 mile  
 1 inch ~ 0.56 mile



## Project Location & Vicinity

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 1 of 9



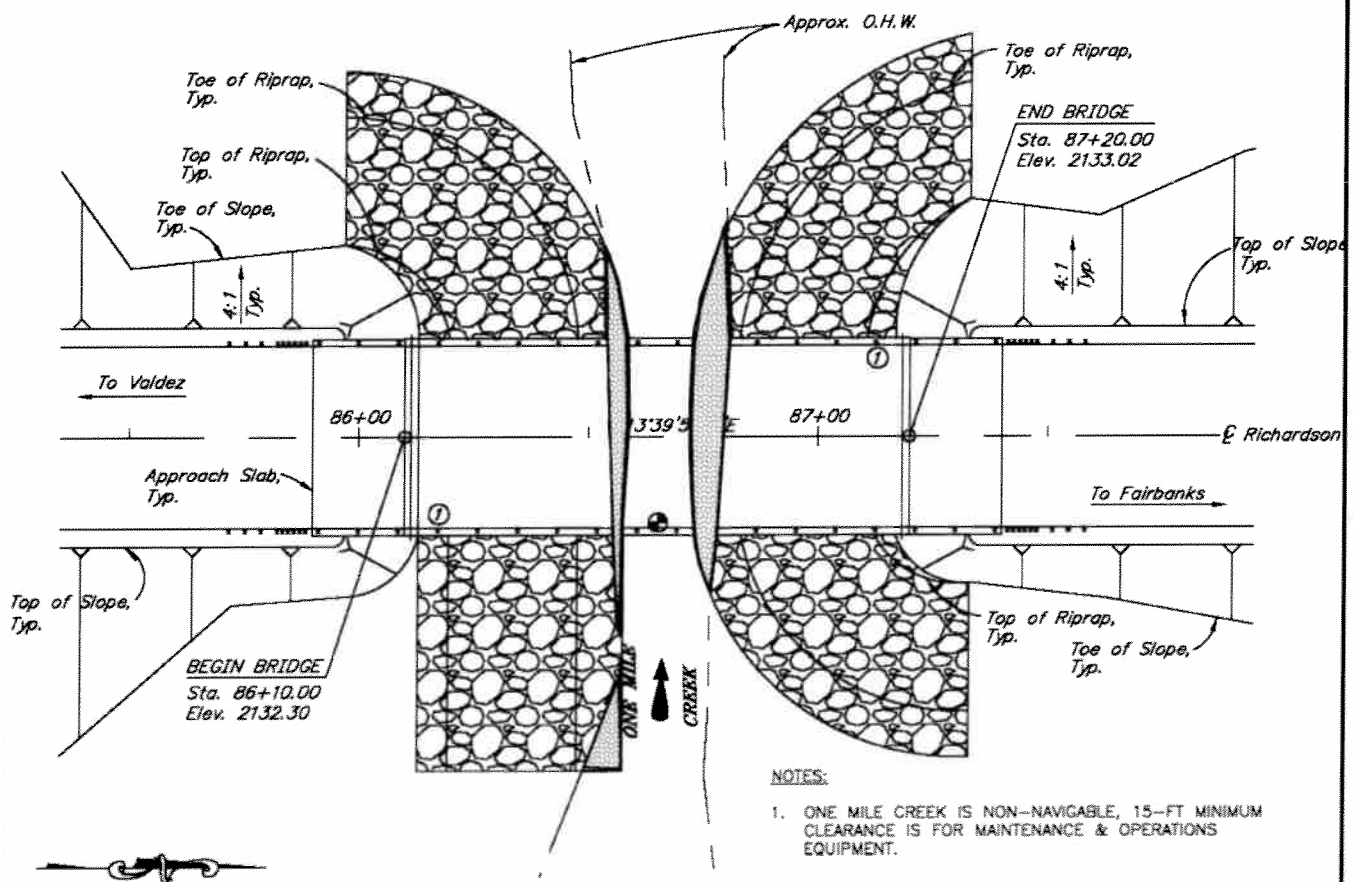
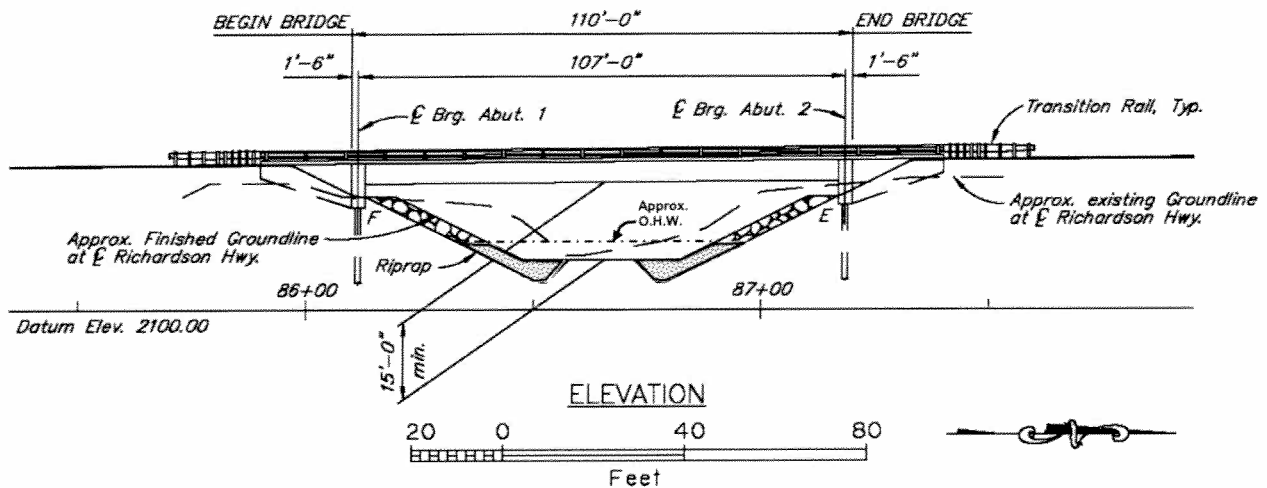
# 1950 SHOP DRAWINGS

2003 PHOTO



EXISTING BRIDGE

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 2 of 9



#### NOTES:

1. ONE MILE CREEK IS NON-NAVIGABLE, 15-FT MINIMUM CLEARANCE IS FOR MAINTENANCE & OPERATIONS EQUIPMENT.

1 inch = 40 feet

## PROPOSED BRIDGE LAYOUT



Estimated Permanent Fill

T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Sec. 32  
USGS Mt. Hayes (C-4); Fairbanks Meridian  
Project Center Coordinates:  
Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

### STATE OF ALASKA

Department of Transportation and Public Facilities

Richardson Hwy One Mile Ck. Bridge Replacement  
and Flood Permanent Repairs (MP 228)

Project #s 61870/BR-0174(18) and 76791/ER-0081(6)

One Mile Creek

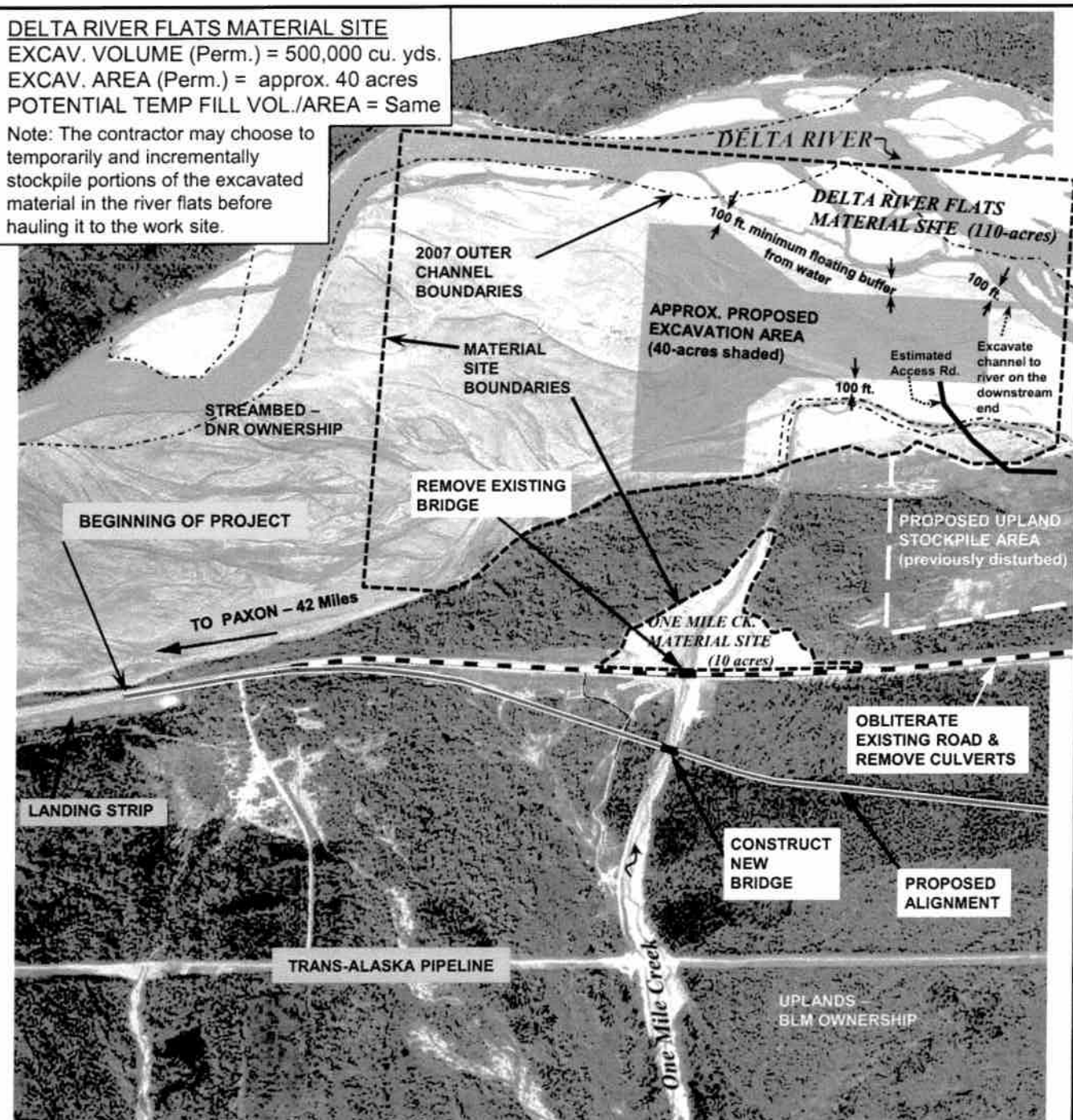
Black Rapids, Alaska

DATE: 11/25/09

Figure 3 of 9

**DELTA RIVER FLATS MATERIAL SITE**  
 EXCAV. VOLUME (Perm.) = 500,000 cu. yds.  
 EXCAV. AREA (Perm.) = approx. 40 acres  
 POTENTIAL TEMP FILL VOL./AREA = Same

Note: The contractor may choose to temporarily and incrementally stockpile portions of the excavated material in the river flats before hauling it to the work site.



Aerial Photo Year: 2001

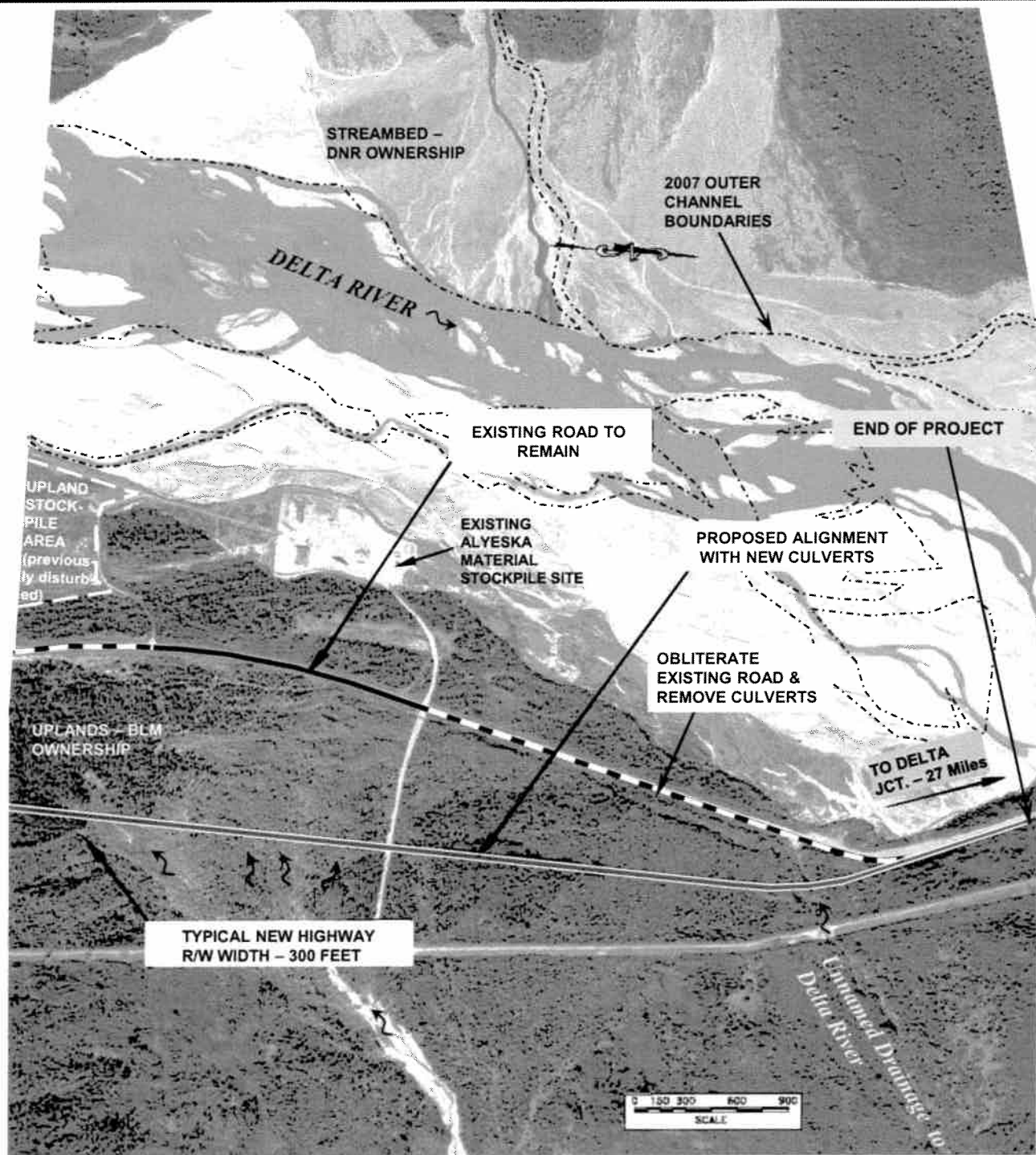
T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Section 32  
 USGS Mt. Hayes (C-4); Fairbanks Meridian  
 Project Center Coordinates:  
 Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

0.25 mile  
 1 inch ~ 900 feet



## Aerial View – South Segment

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 4 of 9



Aerial Photo Year: 2001

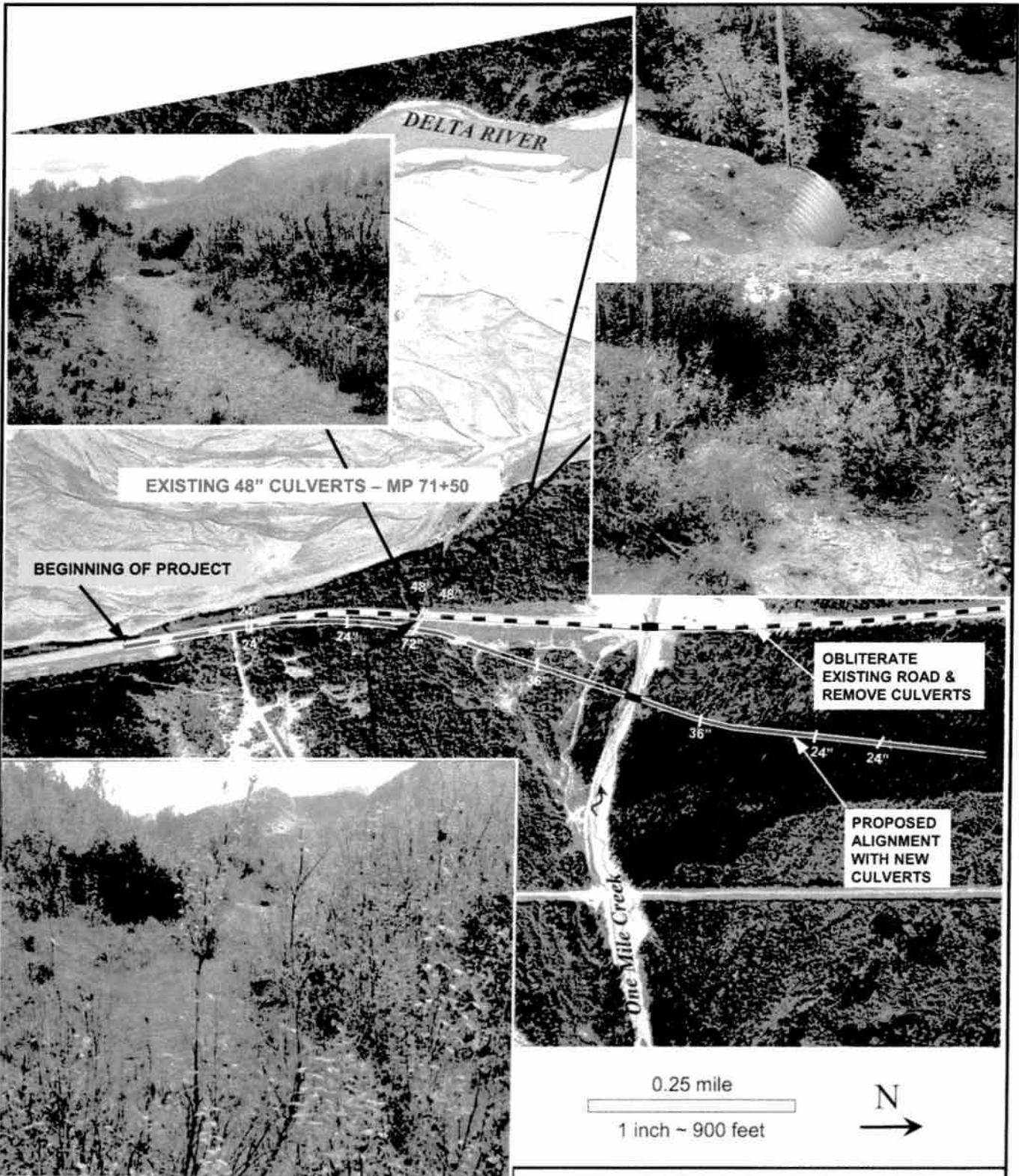
T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Section 32  
 USGS Mt. Hayes (C-4); Fairbanks Meridian  
 Project Center Coordinates:  
 Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

0.25 mile  
 1 inch ~ 900 feet



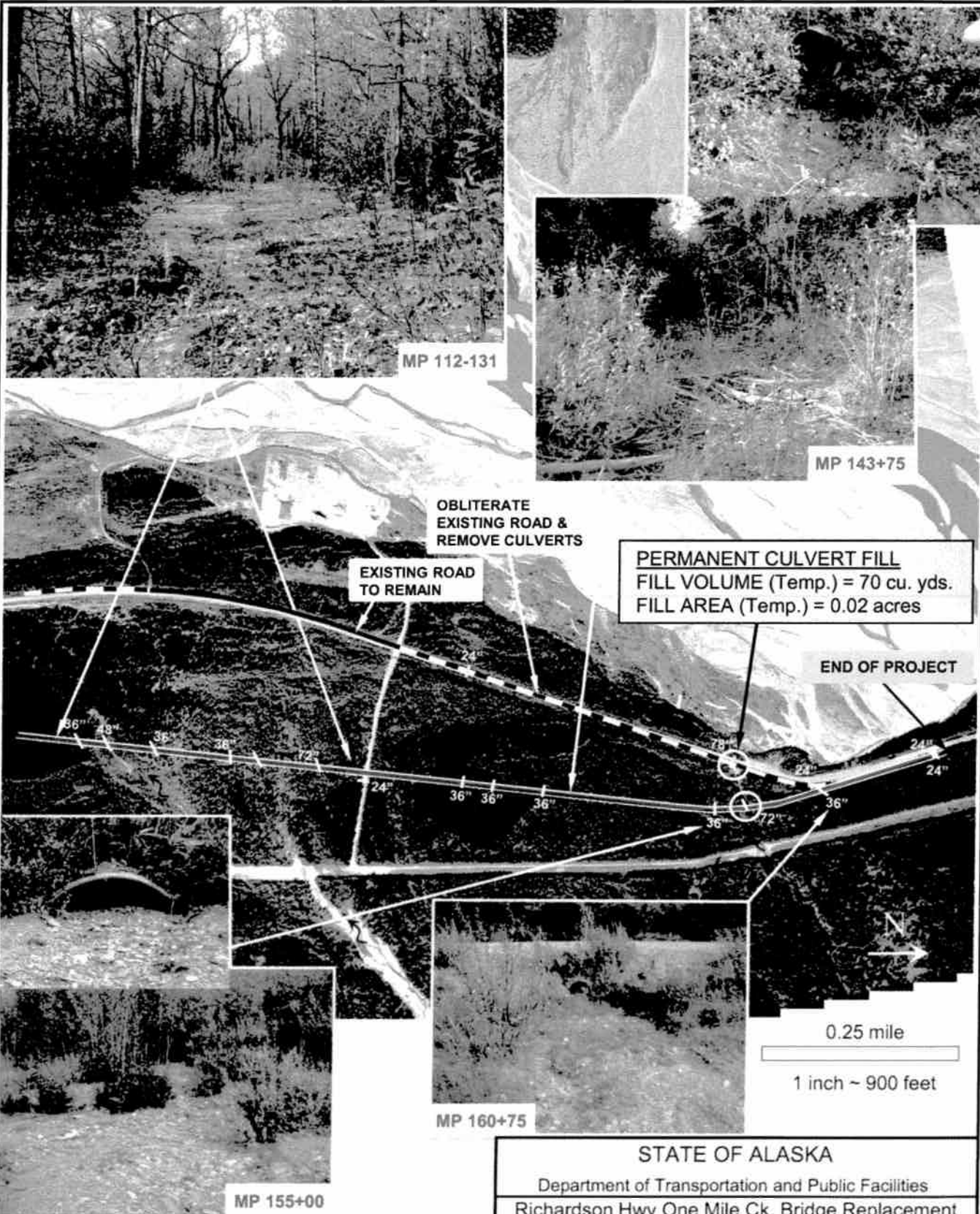
## Aerial View – North Segment

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 5 of 9

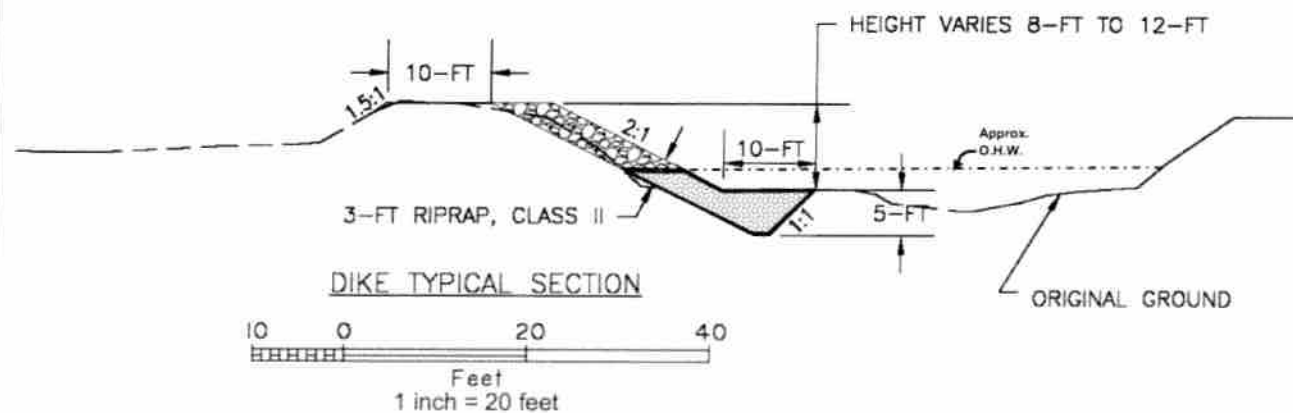
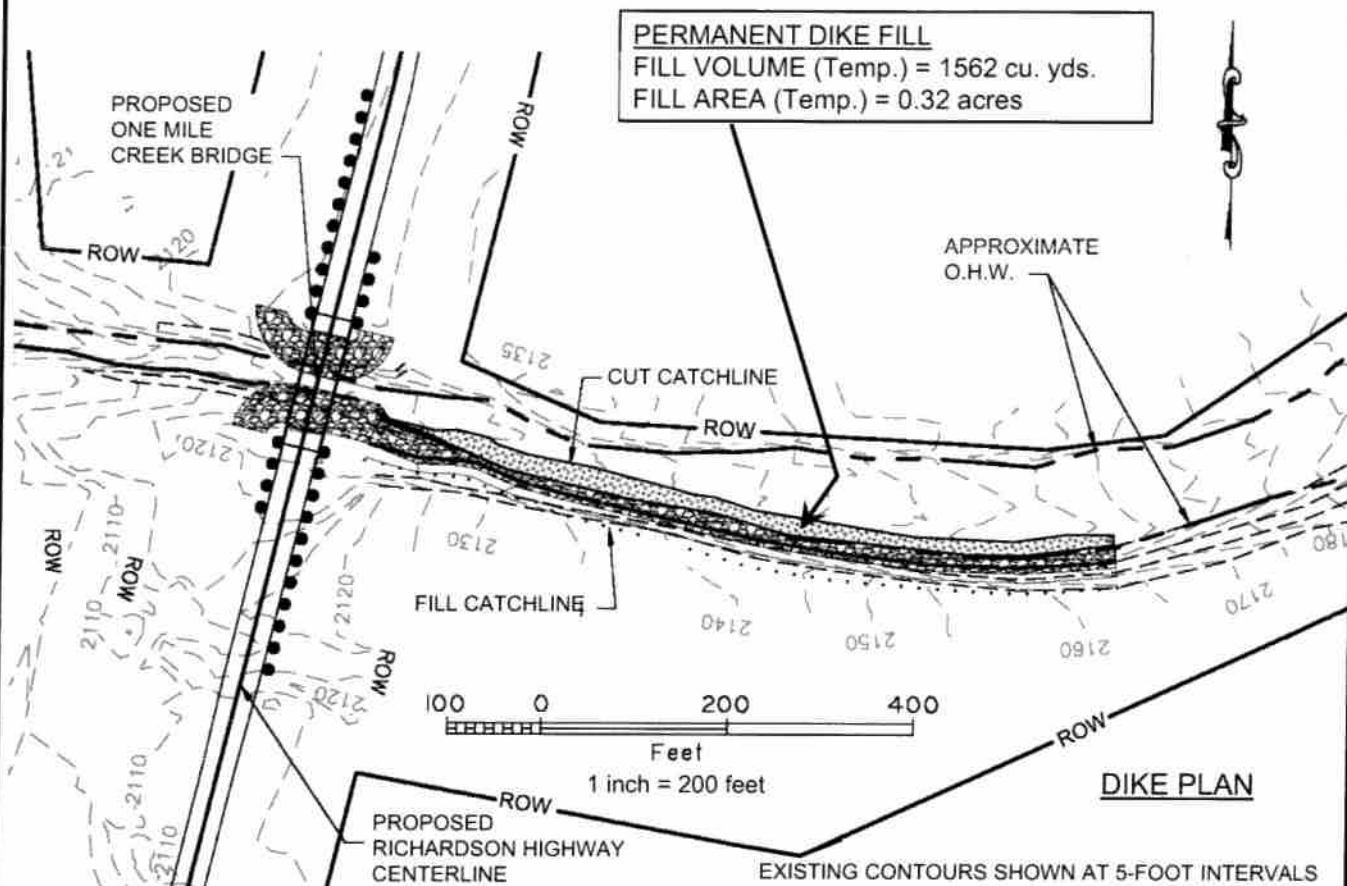


**Culvert Photos – South Segment**

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 6 of 9



**Culvert photos- North Segment**



Estimated Permanent Dike Fill

T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Sec. 32  
 USGS Mt. Hayes (C-4); Fairbanks Meridian  
 Project Center Coordinates:  
 Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

## DIKE PLAN

### STATE OF ALASKA

Department of Transportation and Public Facilities

Richardson Hwy One Mile Ck. Bridge Replacement  
 and Flood Permanent Repairs (MP 228)

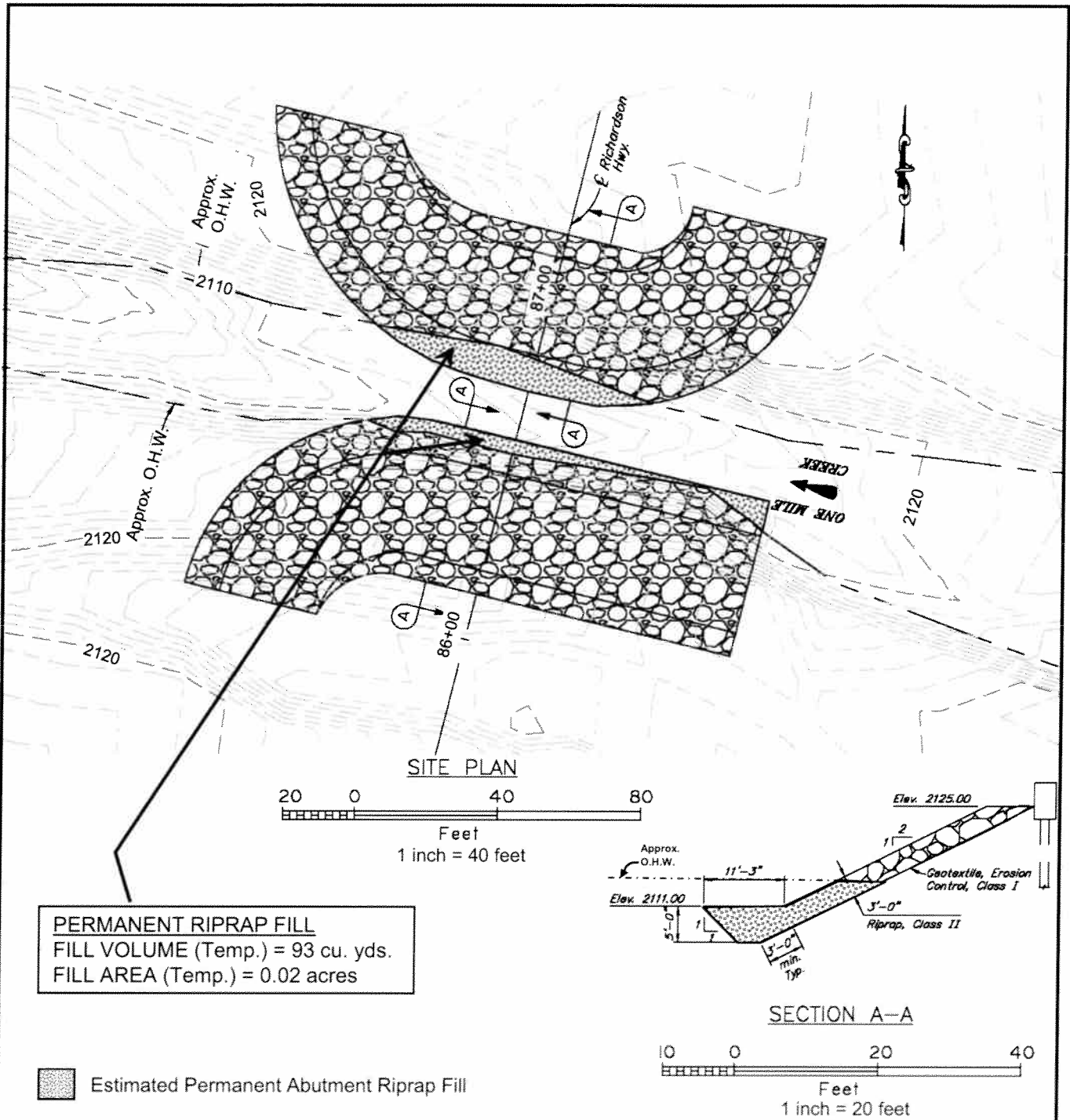
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)

One Mile Creek

Black Rapids, Alaska

DATE: 11/25/09

Figure 8 of 9



## BRIDGE RIPRAP PLAN

T16S, R10E; Section 5, 6, 7, and 8; T15S, R10E; Sect. 32  
 USGS Mt. Hayes (C-4); Fairbanks Meridian  
 Project Center Coordinates:  
 Latitude 63°32'39"N, Longitude -145°51'41"W (WGS84)

STATE OF ALASKA	
Department of Transportation and Public Facilities	
Richardson Hwy One Mile Ck. Bridge Replacement and Flood Permanent Repairs (MP 228)	
Project #s 61870/BR-0174(18) and 76791/ER-0081(6)	
One Mile Creek	Black Rapids, Alaska
DATE: 11/25/09	Figure 9 of 9